

0023

Inciding
2/15/0032
JK

From: "Karla Knoop" <kknoop@jbrenv.com>
To: "Shaver, Dave" <dshaver@coalsource.com>, "Jeffrey Studenka" <jstuden...
Date: 2/21/2008 5:30 PM
Subject: Crandall mine water discharge - lab report for Feb 18 sample & trend/compliance data
Attachments: crandall 002 Feb 18 08.pdf; Crandall 2008 UPDES compliance.xls; Crandall 2 008 wq trends.xls

All,

Please see attached Crandall Canyon mine water discharge laboratory results for the sample taken last Monday, February 18th. Excel files showing trends and UPDES permit compliance are also attached.

In light of the generally stabilizing water quality, UtahAmerican is contemplating a reduction in sampling frequency from weekly to once every two weeks. We would plan to sample again on or about March 3rd, followed by March 17th and 31st. The trace constituents (Al, B, Mn, Ni, & Zn) not required by the UPDES permit would remain in the parameter list for the time being.

Regards,

Karla Knoop, Hydrologist

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Laboratory: 65 North 300 East Price, UT. 84501

Report Date
2/21/2008

Client
UtahAmerican Energy Inc.
Genwal Resources, Inc.
PO Box 1077
Price, UT. 84501
Dave Shaver
(435)888-4017

Sample I.D.
002
Sampled By: KDK
Date: 2/18/2008 Time: 12:55
Received
Date: 2/18/2008 Time: 14:53

Field Measurements				
Cond. uS	Temp. C	pH	D.O. ppm	Turbidity NTU
1448	12.1	7.92	10.1	
<u>Notes:</u>				

Lab I.D. #: 558

Mine Code 08

Site Code 40

Certificate of Analysis

Analyte	Results	Units	MRL	Method	Date	Time	Analyst
<u>Wet Chem.</u>							
Oil & Grease	<5	mg/L	5	EPA 413.1	2/20/2008	16:07	SB
Solids, Total Dissolved	1018	mg/L	20	EPA 160.1	2/19/2008	11:21	SB
Solids, Total Suspended	<4	mg/L	4	EPA 160.2	2/19/2008	11:21	SB
<u>Metals by ICP</u>							
Aluminum, Dissolved	0.17	mg/L	0.01	EPA 200.7	2/20/2008	15:46	SB
Boron, Dissolved	0.17	mg/L	0.05	EPA 200.7	2/20/2008	15:46	SB
Iron, Dissolved	0.021	mg/L	0.010	EPA 200.7	2/20/2008	15:46	SB
Iron, Total	0.668	mg/L	0.010	EPA 200.7	2/20/2008	11:55	SB
Manganese, Dissolved	0.107	mg/L	0.001	EPA 200.7	2/20/2008	15:46	SB
Nickel, Dissolved	0.118	mg/L	0.003	EPA 200.7	2/20/2008	15:46	SB
Zinc, Dissolved	0.227	mg/L	0.005	EPA 200.7	2/20/2008	15:46	SB

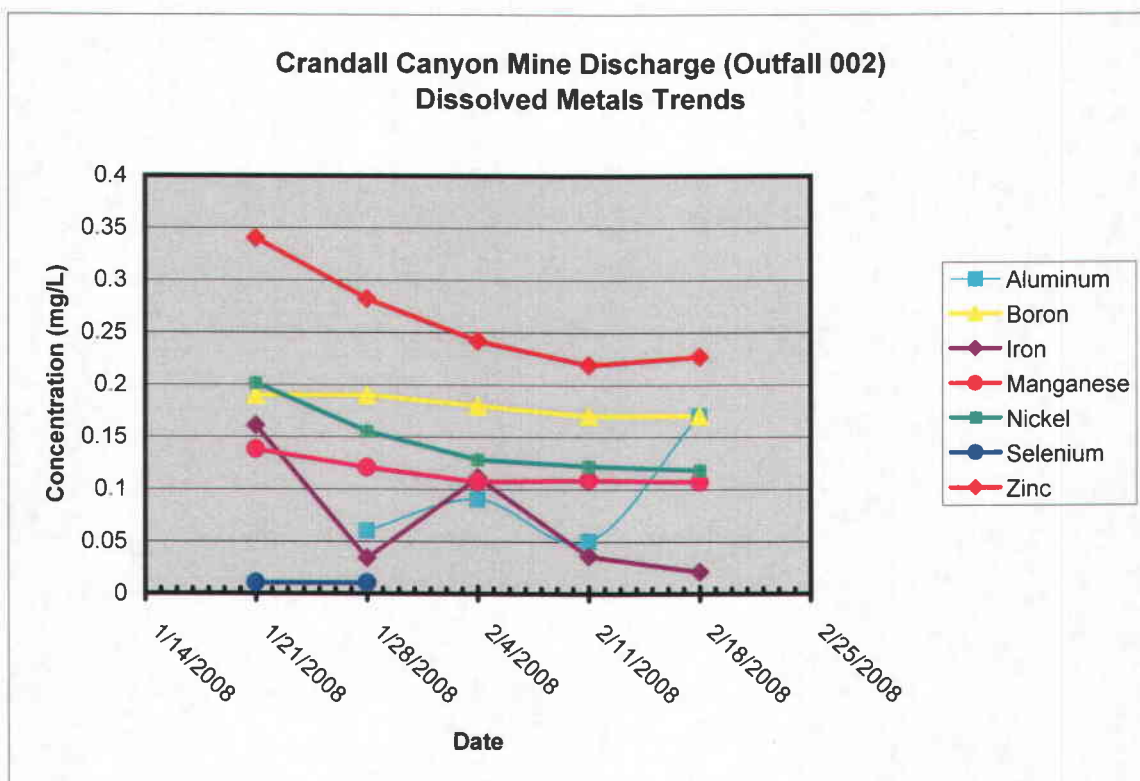
Brandon Pierce
Technical Director

All reported results meet the requirements of NELAC, except for Balance and Hardness.
Balance and Hardness are calculated from certified results.

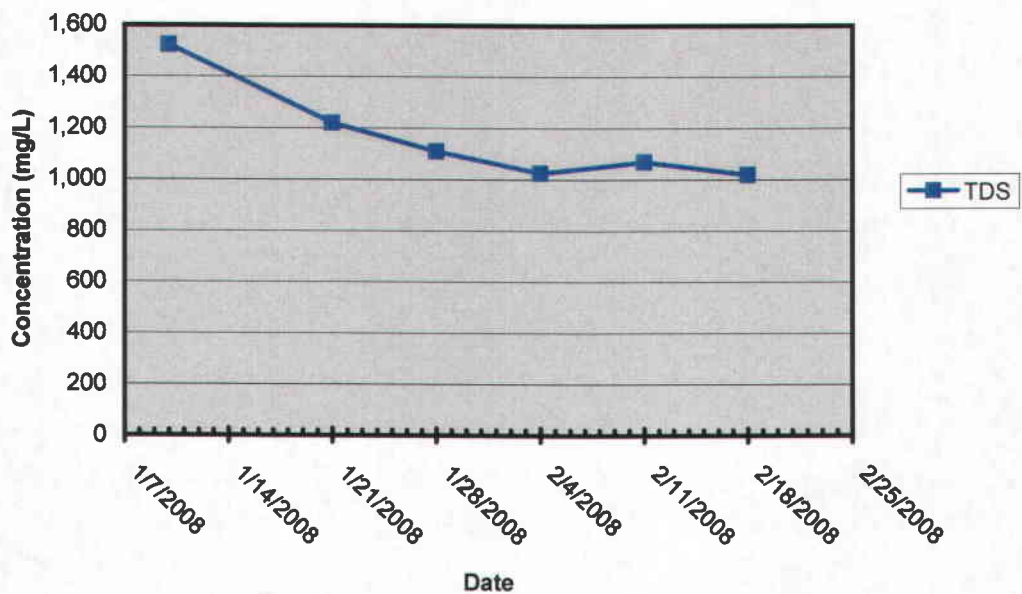
UtahAmerican Energy, Inc., Genwal Resources, Inc., Crandall Canyon Mine
In-mine Groundwater Discharge
TDS and Selected Trace Metals Trends - 2008 (mg/L)

Date	Outfall	TDS	Al (diss)	B (diss)	Fe (tot)	Fe (diss)	Mn (diss)	Ni (diss)	Se (diss)	Zn (diss)
10-Jan-08	002	1,523			0.937					
21-Jan-08	002	1,218		0.19	2.204	0.161	0.138	0.201	0.01	0.340
28-Jan-08	002	1,108	0.06	0.19	1.494	0.034	0.121	0.155	0.01	0.282
4-Feb-08	002	1,025	0.09	0.18	0.815	0.111	0.107	0.128		0.242
11-Feb-08	002	1,068	0.05	0.17	0.765	0.036	0.109	0.122		0.219
18-Feb-08	002	1,018	0.17	0.17	0.668	0.021	0.107	0.118		0.227
14-Jan-08	001	1,687	0.09	0.23	0.758	0.021	0.172	0.181	0.02	0.274

Notes: 14-Jan-08 sample is discharge from the sediment pond. It was influenced by water previously retained in pond as well as in-mine groundwater that had flowed overland to the pond.
 Metals are reported as dissolved, except for iron, which is reported as total & dissolved.
 Selenium values reported in table as 0.01 are actually less than MRL of 0.01; shown as 0.01 for plotting ease.
 The aluminum value for 18-Feb-08 may not reflect the true trend: the lab changed the ICP method reading for this constituent due to improved QA/QC compared with the previous weeks' aluminum QA/QCs.



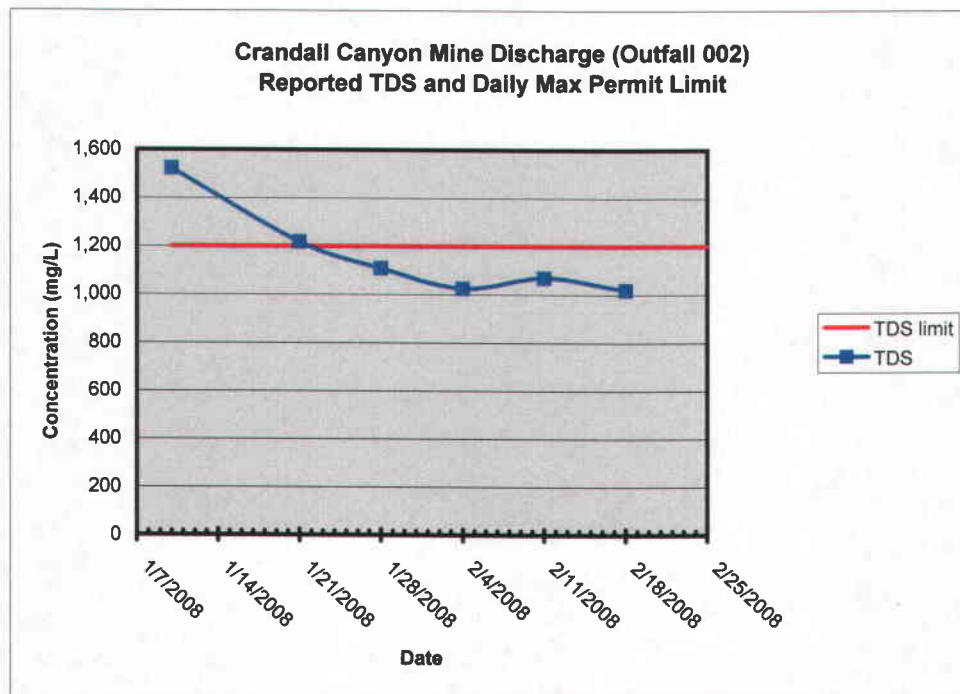
Crandall Canyon Mine Discharge (Outfall 002)
TDS Trend



UtahAmerican Energy, Inc., Genwal Resources, Inc., Crandall Canyon Mine
In-mine Groundwater Discharge
Comparison of 2008 Data with UPDES Daily Maximum Permit Effluent Limitations (mg/L)

Date	Outfall	TDS		TSS		Fe (tot)		Oil & Grease	
		Limit	Reported	Limit	Reported	Limit	Reported	Limit	Reported
10-Jan-08	002	1,200	1,523	70	6	1.0	0.937	10	<5
21-Jan-08	002	1,200	1,218	70	10	1.0	2.204	10	<5
28-Jan-08	002	1,200	1,108	70	12	1.0	1.494	10	<5
4-Feb-08	002	1,200	1,025	70	4	1.0	0.815	10	<5
11-Feb-08	002	1,200	1,068	70	<4	1.0	0.765	10	<5
18-Feb-08	002	1,200	1,018	70	<4	1.0	0.668	10	<5
25-Feb-08	002	1,200		70		1.0		10	
14-Jan-08	001	1,200	1,687	70	10	1.0	0.758	10	<5

- Note 1: 14-Jan-08 sample is discharge from the sediment pond. It was influenced by water previously retained in pond as well as in-mine groundwater that had flowed overland to the pond.
- Note 2: In addition to the TDS daily maximum limit of 1,200 mg/L, the permit also has a limit of 500 mg/L for TDS 30-day average, and Genwal participates in a salinity offset program to ensure that this limit is in compliance.
- Note 3: In addition to the TSS daily maximum limit of 70 mg/L, the permit also has limit of 25 mg/L for TSS 30-day average and a limit of 35 mg/L for TSS 7-day average.



Crandall Canyon Mine Discharge (Outfall 002)
Reported Total Iron and Daily Max Permit Limit

